

Mobile Health Technology Evaluation: Innovativeness and Efficacy vs. Cost Effectiveness

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ABSTRACT

Globally, the advancement of mobile technology and the growing number of mobile phone users has promoted the boom in mobile health services. The influence of mobile technology has, in fact, made healthcare delivery more accessible, affordable and effective today. Consumers are thus increasingly using mobile devices as health service delivery aids across various countries. However, questions remain as to how consumer traits like personal innovativeness and self-efficacy, financial costs related to the service delivery and demographics like age and gender may affect the usage and adoption of mobile health services, especially for emerging economies like Bangladesh. Conceptual model of the study identifies self-efficacy, facilitating conditions, effort expectancy and performance expectancy to be significant constructs that influences users' overall perceptions of mobile health services, along with moderating effects of both age and gender upon the selected factors. Finally, the study highlights managerial implications, future research directions and limitations.

KEYWORDS

Bangladesh, Financial Cost, Information Technology, Mobile Communications, Mobile Health Services, Personal Innovativeness, Self-Efficacy, UTAUT

INTRODUCTION

The use of emerging information and communication technology (ICT) has gained an increasing amount of attention due to its ability to improve the delivery of services in various sectors. Particularly, the introduction of ICT in healthcare has made healthcare delivery more accessible and affordable in recent times (Nisha et al., 2015). In fact, electronic health (e-Health) is the new paradigm for healthcare systems today, covering both processing and telecommunication technologies. Many healthcare organizations claim e-Health to be a strategic tool for providing quality healthcare that will eventually overcome healthcare related challenges around the world. For instance, e-Health

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can enable the practitioners to offer services beyond their physical reach. It can also make medical information available to healthcare consumers and therefore make consumers active participants in the healthcare delivery process (Ami-Narh and Williams, 2012).

Globally, a branch of e-Health services - mobile health has been constantly expanding over the last decade. Mobile health (m-Health), as defined by the World Health Organization (WHO), is an area of electronic health that provides health services and information via mobile technologies such as mobile phones and PDAs (Kallander et al., 2013). The introduction of m-Health has initiated a drastic shift in focus from traditional healthcare informatics based on provider driven concepts to consumer health informatics based on the exchange of information and interconnection of mobile computing infrastructure (Rai et al., 2013). In practice, m-Health services are often used for transmitting electronic medical records between medical staff and patients, monitoring patients remotely, sending electronic alerts for disease control and providing useful applications, information, and functionality to healthcare consumers (Lester et al., 2011).

Evidence suggests that the use of mobile technology improves diagnosis and compliance with treatment guidelines and patient information and increases administrative efficiency (Rashidee, 2013). Moreover, there are a number of patients who possess less knowledge and understanding of personal health problems but cannot afford time or money to visit doctors or medical centres on a regular basis. Hence, m-Health not just improves health status rather it effectively addresses healthcare challenges such as access, quality, affordability, behavioral norms, skill development in communication, supply management, information management and financial transactions through the exchange of information (Sultana, 2014).

Although the potential of m-Health services are enormous and research is expanding in this area, little is known about how this mobile-based healthcare service channel is viewed by consumers. Since healthcare services are traditionally hands-on provider-patient direct services channel, it is crucial to understand how consumers' personal traits and the financial cost of consuming such services might influence m-Health adoption and usage intentions of consumers. In emerging countries, technology may be well-perceived but when the content is sensitive like healthcare provisions, acceptance of the technology often depends upon the personal characteristics of consumer behavior and the cost effectiveness of the service, among other factors. This study is therefore motivated by the substantial research opportunities in this interesting and budding space. Specifically, the aim of this paper is to examine the role of personal innovativeness, self-efficacy and financial cost of the service consumption, along with other factors that can influence the acceptance and use of m-Health services from the perspective of an emerging economy like Bangladesh.

The unified theory of acceptance and use of technology (UTAUT) model has been used to pursue the purpose of this paper. Besides original constructs, proposed constructs of personal innovativeness, perceived self-efficacy and perceived financial cost has been included to examine the factors that can influence users' intention to use m-Health services in Bangladesh. Additionally, the moderating impact of consumers' age and gender has been explored in this paper. This study thus has both theoretical and managerial implications. Theoretically, drawing upon relevant literature, this paper aims to provide a model that is capable of understanding the determinants behind the future adoption of m-Health services among the people of Bangladesh. From a managerial perspective, the findings of this research should provide further insights into understanding and managing potential m-Health users from emerging economies by focusing on consumer behavior and cost effectiveness of the service. This study can also assist various public and private hospitals and various telecommunication networks to consider the idea of providing m-Health services to the people of Bangladesh.

LITERATURE REVIEW

This study argues that traits of consumer behavior like their personal innovativeness and perceived self-efficacy, together with the perceived financial cost of m-Health services plays a deterministic

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